**US Parents' Domestic Labor During the First Year of the COVID-19 Pandemic**


ABSTRACT

It is important to assess the long-term consequences of the COVID-19 pandemic for gender equality, but we know little about US parents' domestic arrangements beyond the early days of the pandemic or how simultaneous changes in employment, earnings, telework, gender ideologies, and care supports may have altered domestic arrangements. This study assesses changes in parents' domestic labor during the first year of the pandemic using fixed-effects regression on data from a longitudinal panel of 700 different-sex partnered US parents collected at three time points: March, April, and November 2020. Parents' divisions of housework and childcare became more equal early in the pandemic, but divisions of housework reverted toward pre-pandemic levels by Fall 2020 whereas fathers' shares of childcare remained elevated. Changes in parents' divisions of domestic labor were largely driven by changes in parents' labor force conditions, but shifts in gender ideology also mattered. Decreases in fathers' labor force participation and increases in telecommuting in April portended increases in fathers' shares of domestic tasks. As fathers increased their time in paid work and returned to in-person work by fall, their shares of domestic labor fell. Shifts toward more traditional gender ideologies were also associated with decreases in fathers' shares of childcare in Fall 2020. Overall, results point to remote work as a possible means for achieving greater gender equality in domestic labor among couples, but shifts toward traditional gender ideologies may suppress any gains stemming from supportive work-family policies.

# INTRODUCTION

The COVID-19 pandemic may mark a pivotal stage in the gender revolution. Many scholars have noted that progress of the gender revolution stalled prior to the pandemic, particularly because men's involvement in domestic labor has not increased to the same extent as women's involvement in paid labor and because US society continues to devalue domestic work (England, 2010; Goldscheider et al., 2015). The pandemic caused major disruptions in both the paid and unpaid labor markets, severely blurring boundaries between work and family. How families would handle this was a major question that led many to argue that the loss of care support would reverse the progress of the gender revolution and severely disadvantage mothers (Alon et al., 2020; Collins et al., 2020; Lewis, 2020; Miller, 2020). Evidence from the early months of the pandemic supported these predictions. Time spent in domestic labor increased for parents, and women – mothers in particular – were more likely to lose their jobs, reduce their work hours, report work-family conflict, and experience elevated levels of psychological distress than men (Author Citation; Calarco et al., 2020; Collins et al., 2020; Landivar et al., 2020).

The long-term consequences of the pandemic for gender equality and women's well-being likely rest not just on parents' responses to early pandemic lockdowns, but also on the way families adjusted to shifting conditions across the duration of the pandemic. Mitigating any negative consequences of the pandemic will depend on a firm understanding of the underlying factors shaping parents' labor arrangements. As the pandemic has dragged on for over two years, the conditions affecting work and family life shifted substantially. Indeed, research demonstrates simultaneous changes in employment (U.S. Bureau of Labor Statistics, 2021a), remote work (Brynjolfsson et al., 2020; U.S. Bureau of Labor Statistics, 2021b), gender attitudes (Mize, Kaufman, & Petts, 2021), and access to housework and care supports (Landívar et al., 2021; OneDine 2021; Procare Solutions, 2021) during the pandemic. Change across so many domains

raises questions not only about the implications for domestic divisions of labor throughout the pandemic (and beyond), but also about which factors may be most influential in altering partnered parents' arrangements and responsibilities for housework and childcare. Identifying factors that shaped the division of domestic labor among parents throughout the pandemic has the potential to improve our theoretical understanding of determinants of domestic divisions of labor, inform potential policy interventions that may help mitigate negative impacts from the pandemic, and help us understand the long-term implications of the pandemic for gender inequality within the domestic sphere.

Given the duration, shifting conditions, and potential costs of the pandemic, this study investigates two questions: (1) how have parents' divisions of unpaid domestic labor (i.e., housework and childcare) changed over time during the pandemic, and (2) what accounts for these changes? To answer these questions, we collected data on divisions of domestic labor, paid work, earnings, gender ideologies, and use of domestic and workplace supports from a longitudinal panel of different-sex partnered US parents in April and November of 2020. In April, respondents also reported on their pre-pandemic circumstances in March. We employ fixed-effects regression to model within-couple changes across the pandemic. Fixed-effects regression not only controls for unobserved time-invariant confounders, improving causal inference, but also helps to identify key factors that may be driving changes in the division of domestic labor.

## BACKGROUND

### *Determinants of Domestic Labor*

Investigating how the division of domestic labor in couples shifted during the COVID-19 pandemic requires understanding how the factors affecting the division of labor also changed.

Several factors are central to couples' domestic arrangements. First, the gender system in society dictates how domestic labor is allocated and to whom (Ridgeway & Correll, 2004). In the United States, women are assigned primary responsibility for housework and childcare, doing the majority of domestic labor within homes and making up the majority of workers in the care and domestic work industries (Bianchi et al., 2012; Cohen, 2013). In the US, cultural values surrounding gender – such as ideal worker norms and intensive mothering – shape workplace policies that discriminate against working women and limit public provision of domestic and care supports. The institutionalization of female homemaking and caretaking via law and policy selects women into, and men out of, domestic labor responsibilities (Collins 2019). A lack of family-friendly workplace policies (Pedulla & Thébaud, 2015) and the persistence of an ideal worker culture, therefore, both help to perpetuate traditional gender arrangements in the domestic sphere (Collins, 2019). Changes in domestic demands at home due to shifts in the provision of domestic housework and care supports, therefore, are more likely to affect women than men.

Second, although gendered institutions and norms shape behaviors, and therefore influence how families responded to pandemic conditions, individual values guide behavior within structural constraints (Pedulla & Thébaud, 2015). According to the *gender ideology hypothesis* (Stafford, Backman, & Dibona, 1977), partners shape the division of domestic labor to align with their attitudes about gendered behavior. Greater valuation of traditional gendered behaviors such as separate spheres and/or essential gender differences in caregiving is negatively associated with men's shares of domestic tasks while valuation of gender egalitarianism is positively associated with men's shares (Carlson & Lynch, 2013; Dernberger & Pepin, 2020). Therefore, changes in one's beliefs may elicit changes in the domestic division of labor during the pandemic.

Third, the *time availability* and *relative resources hypotheses* (Stafford, Backman, & Dibona, 1977; Blood & Wolfe, 1960) argue that domestic labor is a function of one's available time to complete housework and childcare tasks and one's bargaining position to avoid them. Partners who spend more time in the labor force have less available time to complete domestic tasks and therefore do less housework and childcare. Additionally, partners who have greater relative earnings are able to leverage their position as primary breadwinner to bargain out of domestic work by arguing that their time is better devoted to paid labor pursuits or by leveraging their partners' financial dependence to extract concessions.

Like relative resources, time availability has also been conceptualized from a dyadic, family system perspective (Blair & Lichter, 1991), implying that housework responsibilities are negotiated between partners based on who has the most relative time to perform them. In addition to one's own paid work, one's partner's paid work is also associated with one's domestic labor performance (Blair & Lichter, 1991; Cunningham, 2007; Gough & Killewald, 2011; Noonan, Estes, & Glass, 2007). Overall, female partners' employment, paid work hours, and relative earnings are associated with a greater share of domestic work among male partners, while his employment, paid work hours, and relative earnings are associated with doing a smaller share (Blair & Lichter, 1991; Carlson & Lynch, 2017; Nordenmark, 2004; Ross, 1987). Relative resources, however, have been found to be more strongly related to housework than childcare (as it is often easier to outsource housework tasks) while time availability has been shown to be more strongly related to childcare given the prevalence of intensive parenting norms (Carlson 2021; Deutsch, Lussier, & Servis, 1993; Hays, 1996).

Although the amount of time one spends in paid labor affects one's available time for unpaid domestic labor at home, work-family benefits also shape time availability. People with

access to work flexibility and paid time off have more available time to attend to domestic needs (for review see Noonan, 2013). In addition to raising one's awareness of domestic needs (Shafer et al., 2020), working from home enables workers to attend to housework and childcare tasks by reducing commute time, efficiently using down time/lunch hours to complete tasks, and even enabling individuals to attend to housework and childcare during work time if needed. Recent research demonstrates that working from home and paid leave are positively associated with both men's and women's domestic labor (Bünning, 2015; Carlson et al., 2021; Holmes et al., 2020; Lyttleton, Zang, & Musick, 2021; Noonan 2013; Petts & Knoester, 2018).

Though an increase in time availability and a potential decrease in relative earnings among men may lead to greater gender equality in domestic contributions, theories of g*ender display* (Brines, 1994; Bittman et al., 2000) and *gender deviance neutralization* (Greenstein, 2000) suggest that unemployed and financially dependent men may avoid domestic work – housework particularly (Deutsch et al. 1993) – to assert their masculinity, while women may attempt to reduce the gender deviance of their breadwinner status by retaining primary responsibility for housework tasks. Nevertheless, while gender norms may supersede other conditions in shaping different-sex partners' divisions of labor under normal circumstances, pandemic conditions are far from normal. Crises, like pandemics or economic downturns, may lead partners to eschew gender conventions in response to exigent circumstances. For example, during the Great Recession, the gendered division of domestic labor became more equal (Berik & Kongar, 2013) even though more men than women lost jobs (Goodman & Mance, 2011; Hout et al., 2011). Similarly, if the COVID-19 pandemic disrupts other gendered processes such as job searches (Rao, 2020), or the stigma of remote work and leave-taking is reduced (Coltrane et al., 2013), men may have felt more comfortable and empowered to take greater responsibility for

domestic tasks. Crisis conditions, however, subside over time. Evidence shows that increases in men's contributions during the Great Recession did not last once the economy began to improve (Berik & Kongar, 2013), suggesting that as conditions revert toward pre-crisis levels (e.g., return to in-person work) so too may partners' divisions of domestic labor.

### *Paid and Unpaid Labor During the Early Days of the Pandemic*

The early days of the COVID-19 pandemic were characterized by lockdowns and the closures of schools, daycares, and businesses to control the virus spread. The result was a spike in unemployment unparalleled since the Great Depression. However, unemployment spiked more for women than men in Spring 2020 (U.S. Bureau of Labor Statistics, 2021a), partly due to female-dominated occupations being most affected by the lockdown (Fuller & Qian, 2021; Kim et al. 2022), but likely also because of the immense increase in domestic labor that was thrust back upon families due to the loss of domestic supports. Not only were children home, but so too were many parents as jobs transitioned to remote work and access to paid leave was more widespread (Guyot & Sawhill, 2020). In Spring 2020, the majority of Americans reported working from home exclusively (Brenan, 2020). Additionally, the Families First Coronavirus Response Act (FFCRA) provided employees of covered employers (i.e., public and private employers with fewer than 500 employees) with up to two weeks emergency paid sick leave and up to 10 weeks of emergency paid family and medical leave, and this leave could be used to care for a child whose school or childcare center had closed due to the pandemic (U.S. Department of Labor, 2020). There is evidence that a sizeable proportion of both female and male employees took leave from work to care for a family member during the pandemic (PL+US, 2021).

Analyses from the early days of the pandemic appear to indicate that mothers' time in domestic labor and time conflicts increased substantially, especially for single mothers (Barroso

& Kochhar, 2020; Center for Translational Neuroscience, 2020; Landivar, 2021; Ranji et al., 2021). Among partnered parents, evidence from numerous countries, including the U.S., suggests that partnered fathers increased their time in housework and childcare as well – resulting in a rise in fathers' shares of overall domestic labor (Author Citation; Chung et al., 2021; Craig & Churchill, 2020; Shafer et al., 2020; Yerkes et al., 2020).

Increases in mothers' time in unpaid domestic work likely stemmed from several sources. The closure of schools and childcare centers as well as restaurants and other domestic services increased domestic workloads in households. Given that mothers are disproportionately responsible for housework and childcare – particularly in regard to tasks involving children's education (Nord & West, 2001) – it is not surprising that mothers' time in domestic labor increased early in the pandemic. Though increased domestic demands likely led many mothers to reduce their labor force participation to resolve work-family conflicts (Petts, Carlson, & Pepin 2021), the shutdown of female dominated industries also increased mothers' time availability due to furloughs and layoffs, weakening their domestic bargaining positions relative to their partners. For those remaining in the labor force, the increase in remote work also increased time availability to handle increases in domestic labor.

The same factors affecting women's time in domestic labor early in the pandemic likely also affected men's time. Women were less likely than men to be employed early in the pandemic and also more likely to reduce their paid work hours (U.S. Bureau of Labor Statistics, 2021a; Collins et al., 2020), yet employment and paid work hours fell steeply for men as well. Moreover, among those remaining in the labor force, men reduced their absolute work hours slightly more than married mothers, on average (Landívar et al., 2020) and also increased their frequency of remote work (Brenan, 2020). It is therefore likely that decreases in fathers' time in

paid labor and relative earnings and an increase in working from home had a positive effect on their shares of domestic labor, while among mothers' these factors had the opposite effect – decreasing fathers' shares of domestic labor.

***Shifting Conditions During the Pandemic***

Although initial evidence from the early pandemic provides some optimism that more time at home may have led fathers to do more domestic work, the changing conditions of the pandemic likely continued to alter the division of domestic labor in families. Thus, considering whether fathers' increased involvement in domestic work persisted or waned throughout the pandemic – and what factors may explain such patterns – is key for understanding what, if any, long-term implications the pandemic may have for gender equality in domestic labor.

Recent evidence suggests that US adults were more likely to endorse many traditional gendered parenting attitudes as the pandemic progressed, yet also more likely to support the importance of paid labor force participation among both parents (Mize et al., 2021). Given demonstrated associations between gender ideology and parents' domestic labor (e.g., Carlson & Lynch 2013; Davis & Greenstein, 2009; Deutsch, Lussier, & Servis, 1993), reversions toward conventional parenting attitudes may have led to a reversion toward more traditional divisions of domestic labor. Shifts toward more traditional parenting attitudes may be explained by the substantial increase in domestic labor during the pandemic which may have amplified strong beliefs in gender essentialist notions that domestic work is the domain of women and that women are innately better caregivers than men (Dernberger & Pepin, 2020; Pepin & Cotter, 2018). Consequently, changes in gender ideology may be particularly likely to promote traditional divisions of childcare during the pandemic. Two recent studies indicate that gender attitudes are responsive to macro-economic trends, suggesting that shifts in men's and women's paid work

may have consequences for attitudes about gendered family roles. Support for gender egalitarianism is positively associated with US women's labor force participation rate (Shu & Meagher, 2018). In addition, US adults are less likely to support gender egalitarianism in the public sphere during periods of high unemployment (Scarborough, Sin, & Risman, 2019). High unemployment and decreases in labor force participation during the pandemic, especially among women, could have driven shifts toward more traditional gender attitudes. Conversely, research shows that economic precarity may lead men and women to support women's employment (Cherlin, 2014), which may explain greater valuation of mothers' employment during the pandemic.

In addition to gender ideologies, availability of housework supports as well as in-person childcare and school also changed across the pandemic. Domestic labor rose during the early days of the pandemic due to the closure of household services like restaurants, childcare centers, and the switch to online schooling. Without federal guidelines, states were free to craft their own pandemic policies, resulting in substantial variability in the availability of housework services, in-person childcare, and schools as the pandemic wore on. By Fall 2020, most bans on indoor dining had been removed though capacity remained limited (OneDine 2021), and maid and laundry services had largely resumed operation, though demand remained low (NDWA Labs 2020; Peña 2021). As such, families that wanted to outsource household labor could do so once again, potentially alleviating some of the burdens of lockdown measures. In contrast, numerous parents continued to lack access to in-person childcare and schooling even though these had become more available in Fall than in Spring 2020. In September 2020, twenty-seven US states offered primarily in-person school and fifteen were largely remote, with the remainder offering

some sort of in-person/online hybrid (Landivar et al., 2021). Even within states, there was substantial variability in school modality by district (Landivar et al., 2021).

Regarding the availability of childcare, one analysis suggests that 60% of all childcare centers were closed early in the pandemic. Of these, many (73%) – but not all - had reopened by November 2020 (Procare Solutions, 2021). Even in situations where in-person school and childcare were available in Fall 2020, many parents continued to keep children at home due to fears about contracting COVID-19 at school (Lopes, Muñana, and Hamel 2020). A study conducted in late 2020 indicated that 72% of parents said they had some choice in how their child attended school, and only two-thirds of those with an in-school option chose it (Henderson, Peterson, & West, 2021). Although roughly 84% of daycares in the US had reopened by Fall, attendance was only 52% of pre-pandemic levels (Procare Solutions, 2021).

Domestic supports changed during the pandemic, but it is unclear what this means for changes in the division of housework and childcare. On one hand, the loss of housework supports and the movement of children into the home likely increased women's domestic burdens and negatively affected gender equality, given women's conventional responsibility for housework and childcare. Yet, research shows that among partnered parents, both fathers and mothers increased their time in housework and childcare tasks early in the pandemic (Author Citation; Shafer et al. 2020; Chung et al. 2020; Craig & Churchill 2020). Fathers likely contributed more domestically because they were home more, having not only the time to spend in housework and childcare tasks but also a greater understanding that their contributions were needed (Shafer et al., 2020). Even if increases in fathers' domestic performance was less than mothers', this may still result in increases in fathers' overall shares of housework and childcare given fathers' low levels of domestic labor pre-pandemic. The gradual return of housework

supports and movement of children back into schools and non-parental care in the Fall of 2020 likely alleviated burdens on mothers and fathers, leading to reversion back toward more conventional divisions of labor to coincide with more "normal" routines. Since housework supports returned more fully than care supports by Fall 2020, and parents' concern about their children's health and well-being remained heightened (Lopes, Muñana, and Hamel 2020), parents' divisions of housework may have reverted toward pre-pandemic levels to a greater extent than their divisions of childcare. However, the additional exposure to housework and childcare that fathers received during the early pandemic (Shafer et al., 2020) may have led fathers to continue to be more engaged in domestic labor than they were prior to the pandemic, even if they became less involved than they were in the early pandemic.

In addition to changes in access to housework and care supports, changes in economic conditions over the course of 2020 likely also altered partnered parents' divisions of domestic labor. Not only did many laid off or furloughed workers return to work, but many workers whose jobs transitioned to remote work returned to the office. The labor force participation rate (LFPR) of US men and women aged 20 and older rebounded in the Fall of 2020, though men's employment rebounded stronger than women's (U.S. Bureau of Labor Statistics, 2020). In April 2020, over half of Americans were working exclusively from home. By November, less than one-quarter were working from home. Still, this was higher than the proportion working from home prior to the pandemic (Brenan, 2020; Brynjolfsson et al., 2020; U.S. Bureau of Labor Statistics, 2021b).

From gender ideology, time availability, and relative resources perspectives, increases in valuation of traditional gendered family roles, greater increases in fathers' labor force participation in the fall compared to mothers, and the return to in-person work suggest that

fathers' contributions and shares of domestic labor were likely highest during the early days of the pandemic. As the pandemic progressed through the fall, fathers' contributions and shares of domestic labor likely waned, settling slightly above pre-pandemic levels – matching shifts in gender ideology, access to housework/care supports, employment, and working from home. With potentially less access to, and use of, care supports in Fall 2020 compared to housework supports, we expect that parents' divisions of housework were especially likely to return to pre-pandemic levels.

## METHOD

### *Data*

Data for this study comes from an original longitudinal panel obtained from Prolific (www.prolific.co), which is an opt-in platform designed to facilitate scientific survey research. Prolific samples are more diverse than those derived from MTurk and the data quality is comparable, and in some ways preferable (Peer et al., 2017). Although Prolific panels are non-probability samples, research shows that findings from both experimental and observational studies using online opt-in samples are generalizable to the general population (Baker et al., 2013; Coppock, 2019; Jeong et al., 2019). Indeed, results from non-probability samples do not differ substantially from probability-based samples once demographic variables are sufficiently controlled (Levay, Freese, & Druckman, 2016).

In mid-April 2020, we administered a survey to 1,207 respondents, restricting panelists to US parents residing with a spouse or partner and a biological child. To increase the diversity of the sample, we oversampled men, Black people, those without a college degree, and those who identify as politically conservative. Our original sample was reduced to 1,157 respondents after removing respondents due to data quality issues (e.g., did not complete most of the survey, did

not pass the attention filters). In November 2020, the authors administered a second wave in which 828 of the original respondents (72% of the original sample) were re-surveyed. In examining patterns of sample attrition, analyses show that although women and older respondents were more likely to participate at Wave 2, there are no substantive or statistical differences in the demographic profile of Wave 2 and Wave 1 panelists regarding gender, age, income, education, religion, political ideology, marital status, or age of youngest child.

For this study, we limit analyses to respondents surveyed at both waves. After excluding respondents who reported being in a same-sex relationship (N = 74) and those whose relationships had dissolved between waves (N = 10) our analytic sample consisted of 744 respondents. Listwise deletion of the small amount of missing values in our data results in a final analytic sample of 700 parents who reside with a different-sex spouse/partner and child (analyses involving childcare are restricted to families with a child under the age of 18; N = 646).

To account for demographic variation between our sample at the US population, descriptive results are weighted using estimates from the April 2020 Current Population Survey (CPS) to be representative of US parents who reside with a partner and child based on parent's gender, age, and race/ethnicity. Sociodemographic characteristics for the full sample at each wave can be found in the Appendix (Table A1).

***Measures***

*Division of Domestic Labor.* Respondents were asked to report on the division of several routine domestic housework and childcare tasks between themselves and their partners (ranging from 0=*I do it all* to 4=*my partner does it all*) in both waves, including a report of the division of domestic tasks prior to the pandemic. Routine housework tasks include: preparing and cooking meals, laundry, shopping for groceries and other household needs, washing dishes, and house

cleaning. For childcare, respondents were asked to report on divisions of labor specific to their youngest child. For parents of younger children (younger than age 6), respondents reported on the following routine tasks: physical care (e.g., bathing, feeding, dressing), talking/listening to child, looking after child, putting child to bed, reading, playing, organizing, and enforcing rules. Parents of older children (ages 6-17), reported on: talking/listening to child, monitoring, attending events, reading, playing, organizing, enforcing rules, picking up/dropping off, and helping with homework. These measures are identical to those used in other international studies assessing change during the COVID-19 pandemic (e.g., Shafer et al., 2020).

For our analyses, we create two mean scales ranging from 0 to 4 that combine information on individual housework and childcare tasks to indicate *fathers' shares of routine housework* and *routine childcare*. We first create gendered indicators of the relative division of housework and childcare tasks based on respondents' reports (i.e., *0=mother does it all* to *4=father does all of it*) and then averaged responses. In addition to the mean scales, we create a categorical measure for descriptive purposes to indicate whether the *mother does majority of housework/childcare*, whether partners do an *equal share of housework/childcare* (i.e., each parent contributes 40-60% of the housework and childcare; scale score between 1.6 and 2.4 out of 4), or whether the *father does majority of housework/childcare.*

*Predictors of Parents' Domestic Labor.* We include several time-varying variables as primary predictors of parents' divisions of domestic labor during the pandemic. Two of these encompass mothers' and fathers' work experiences during the pandemic: mothers' and fathers' *work from home status* (worked from home exclusively, worked from home sometimes, or did not work from home/is not employed), and each parents' *employment status,* coded as not working, working part-time (less than 35 hours per week), and working full-time (35 hours per

week or more; used as reference category). For descriptive purposes, we also examine various divisions of paid labor during the pandemic (both work full-time, both work part-time, father works full-time/mother does not work, father works full-time/mother works part-time, father does not work/mother works, both not working, and other). In addition to paid work, models include two indicators of couples' financial resources. *Household income* ranges from 1 = less than $1,000/month to 7 = $9,000/month or more.[1] Parents' *relative earnings* is a categorical variable based on respondents' reports of relative earnings, coded as father earns more, mother earns more, and both parents earn relatively the same (reference). Lastly, we include two additional contextual variables. *Child in daycare/school* is a dummy variable (1 = yes) indicating whether the focal child was attending in-person daycare (which includes both formal and informal daycare) or school at each time point. We also account for parents' *traditional gender attitudes*, which is indicated by the mean response to six items (e.g., "women and men should share equally in raising children", "preschool children are likely to suffer if their mother is employed"). Responses are coded such that higher values indicate more traditional gender attitudes. These questions were asked once at each wave; W1 responses are used for both March and April, and W2 responses are used for November ($\alpha$ = .72 at W1 and .58 at W2[2]).

***Analytic Strategy***

[1] We conducted supplementary analyses using a categorical measure of income. There was some evidence that fathers' shares of domestic labor were lower in the highest-income families ($9,000 or more a month) than middle-income families ($3,000-$4,999/month). There were no other differences across categories, and results were unchanged for the other variables in the model.

[2] The smaller alpha coefficient at W2 is largely driven by one item: "it is better for everyone if the man earns the main living and the woman takes care of the home and family." In W1, 25% of respondents agreed with this statement, but there was a dramatic change at W2 with 77% of respondents agreeing. Excluding this item increases cronbach's alpha to .66. We retain the full scale in the analyses to be consistent. Supplemental models using independent items instead of the index suggest that the significant effect in Table 2 is being driven by other items in the scale. Results involving other variables are nearly identical in models that exclude the gender attitude scale and models that include each gender attitude individually.

To address the first research question of how parents' divisions of unpaid domestic labor changed over the first year of the pandemic, we first present a descriptive analysis of parents' divisions of housework and childcare in March, April, and November 2020. To provide context to understand these changes, we also present a descriptive analysis of changes in mothers' and fathers' paid work arrangements throughout the pandemic as well as changes in domestic supports and gender attitudes.

After describing changes that occurred during the pandemic, we then use fixed effects models with robust standard errors to assess which contextual factors explain changes in parents' divisions of domestic labor. Fixed effects models enable us to consider whether changes in fathers' shares of housework and childcare during the pandemic were driven by changes in parents' work arrangements, income, domestic supports, and gender attitudes. These models control for all time invariant factors (e.g., race/ethnicity, personality characteristics, etc.), reducing the likelihood that the observed relationships are due to confounding factors. Given that fixed effects models estimate within-person change, concerns about sample selectivity are also minimized (Allison, 2009). These models do require sufficient change in time-varying factors between observation periods, and summary statistics suggest that this requirement is met for our key variables of interest (see Table 1).

## RESULTS

Table 1 presents descriptive statistics on our key variables. As shown in the table, fathers' shares of both housework and childcare increased significantly during the early days of the pandemic. On our 5-point scale, the ~0.2 point increase in men's shares from March to April is the equivalent of a four percentage point increase in men's shares of domestic labor, on average ($0.2 \div 5 = 0.04$). Men's shares of housework grew from 1.43 (~36%) to 1.64 (~41%) while their

shares of childcare went from 1.54 (~39%) to 1.71 (~43%). Though a four percentage point increase in fathers' shares of domestic labor may seem small, it is important to note that married fathers' shares of core housework grew only 3.9 percentage points between 1985 (19.4%) and 2010 (23.3%) (Bianchi et al. 2012). As such, these results indicate that similar progress was made in partnered fathers' shares of domestic labor in one month at the beginning of the COVID-19 pandemic as had been made among married couples during the three decades prior during the stalled gender revolution (England, 2010).

By November, however, fathers' shares had decreased from their height in April. It is important to note, that over the course of the pandemic fathers' shares of domestic labor never exceeded a score of 2 on our scale – the equivalent of an equal 50% share. As such, though fathers' shares increased during the pandemic, partnered mothers retained primary responsibility for domestic labor, on average.

INSERT TABLE 1 HERE

To illustrate these patterns further, Figures 1a and 1b present changes in parents' divisions of housework (Figure 1a) and childcare (Figure 1b) using a categorical measure indicating whether mothers were doing the majority of tasks, fathers were doing the majority of tasks, or whether tasks were shared relatively equally. According to Figure 1, 63% of respondents reported that mothers were doing the majority of housework prior to the pandemic in March compared to 29% who said partners shared housework tasks equally. By April, 43% of respondents reported a relatively equal share of housework compared to 47% who reported mothers were doing the majority. By November, the percentage of respondents reporting sharing housework equally had fallen back to 32% while the percent reporting mothers doing the majority of housework had risen closer to pre-pandemic levels at 58%.

INSERT FIGURE 1a HERE

We find a similar pattern regarding the division of childcare. Prior to the pandemic, 47% of respondents reported sharing childcare equally compared to 49% who reported mothers doing the majority. The percentage reporting a roughly equal share increased to 57% in April before falling to 51% in November, while the percentage reporting mothers doing the majority of tasks fell to 35% in April before rising to near pre-pandemic levels (44%) by November.

INSERT FIGURE 1b HERE

Not only did parents' divisions of domestic labor change over the course of the pandemic, but so too did their paid work arrangements. As shown in Table 1, the proportion of both mothers and fathers working exclusively from home rose dramatically during the early days of the pandemic. The proportion working exclusively from home remained elevated in November but had fallen below April levels. A similar pattern is found for parents' employment status. Fathers spent more time in the labor force across all three periods of observation than mothers. In April, both mothers and fathers were less likely to work full-time and more likely to not be working than in March; fathers were also more likely to be working part-time compared to before the pandemic. While fathers' employment rebounded in November (though not quite to pre-pandemic levels), mothers' work status did not change much between April and November, indicating that those who had left the labor force early in the pandemic remained out of the labor force.

In looking at the division of paid labor among parents, notable changes occurred from March to April: the proportion of dual full-time worker couples and couples where fathers worked full-time and mothers worked part-time decreased, whereas couples where both parents worked part-time and couples where mothers were the sole breadwinner increased. By

November, the division of paid labor had reverted toward pre-pandemic levels, though the number of dual-earning full-time couples remained lower than pre-pandemic. Fathers were the primary earners in close to three-quarters of couples prior to the pandemic. This decreased steadily over the course of the pandemic, however, while the proportion of respondents reporting equal earnings with their partners increased. One potential reason for these changes in paid work is loss of childcare supports. As shown in Table 1, virtually no one reported having a child attending in-person school or daycare in April compared to 63% pre-pandemic. By November, this had increased, but only to 19% (among parents with children under age 18, 75% reported having a child attending school or daycare in March, 1% in April, and 22% in November). Additionally, we find an increase in more traditional gender attitudes during the pandemic.

INSERT TABLE 2 ABOUT HERE

Table 2 presents results from fixed-effects regression models with robust standard errors predicting fathers' shares of housework and childcare. First, accounting for time-invariant characteristics, evidence shows that fathers' shares of housework and childcare were significantly greater in both April ($p < .001$ for both housework and childcare) and November ($p < .01$ for both housework and childcare) compared to March. Nonetheless, the coefficients for November are smaller than those for April. For housework, the difference between April and November is statistically significant ($p < .05$), suggesting a reversion back toward pre-pandemic levels. However, the difference between April and November is not statistically significant for childcare ($p = .29$), suggesting that fathers' shares of childcare continued to be elevated as the pandemic persisted.

Second, looking at parents' time-varying characteristics, results provide strong support for a time availability perspective. Among fathers, transitions to working exclusively from home

compared to not working from home, are associated with greater shares of both housework and childcare. Comparatively, when mothers worked exclusively from home, fathers' shares of domestic labor were significantly lower compared to mothers' not working from home. Thus, it appears that transitioning between never and exclusively working from home was an important predictor of fathers' shares of domestic labor. Transitions between mothers sometimes and exclusively working from home is also a significant predictor of fathers' shares of childcare, with fathers' shares of childcare decreasing when mothers transitioned from working sometimes at home to exclusively at home (results not shown).

Shifts in employment status are also associated with shifts in fathers' shares of domestic labor. Specifically, fathers' transitions to working part-time are associated with increases in fathers' shares of housework and childcare, while shifting from full-time to no work is associated with significantly greater shares of housework only (though the change in childcare shares approaches statistical significance; $p = .065$). In comparison, mothers' transitions out of the paid labor force are associated with decreases in fathers' shares of housework and childcare. Mothers' transitions from full-time to part-time work are associated with significant decreases in fathers' shares of housework only. Since research on paid work hours suggests that domestic labor may be bargained based on one's availability relative to their partner, we tested interactions between mothers' and fathers' frequency of remote work and employment status. Interaction test results can be found in Table A2 of the Appendix. We found little evidence of interactions between parents' frequencies of working from home.

Though full multivariate models provide strong evidence to support a time availability perspective on changes in the division of domestic labor during the pandemic, we find no general association between changes in partners' relative earnings and use of care supports with changes

in partners' divisions of either housework or childcare during the pandemic. When disaggregated by child age, we find evidence that shifts to in-person schooling, but not in-person daycare, are associated with decreases in fathers' shares of childcare among school-age children (see appendix Table A3).

Finally, we find some evidence for a gender ideology perspective. Adopting more traditional gender attitudes is associated with decreases in fathers' shares of childcare, but not changes in their shares of housework. As such, shifts toward more traditional attitudes across the pandemic depressed growth in egalitarian childcare arrangements (supplementary analyses largely suggest that there are no moderating effects of gender attitudes on the associations between parents' work statuses and division of domestic labor; results available upon request)[3].

## DISCUSSION

The COVID-19 pandemic placed great strain on American families, and on mothers in particular. Although many studies have focused on the dramatic effects of the early stages of the pandemic on families, less is known about changing circumstances at home as the pandemic endured. Early struggles dealing with lockdowns, school closures, layoffs, and working from home transitioned as the pandemic progressed into challenges over fluctuating school modalities and juggling care while returning to the workplace. Simultaneous changes in numerous domains confound understanding of which factors mattered for parents' domestic arrangements during the pandemic. Understanding how families managed these shifting demands has important implications for broader patterns of domestic gender inequality, as changes in employment and domestic supports can help identify factors that enable fathers' greater domestic contributions

[3] Additionally, supplementary analyses show that traditional gender attitudes increased for both mothers (M = 0.15, $p < .001$) and fathers (M = 0.29, $p < .001$), but this increase was greater for fathers as compared to mothers (difference = .14, $p < .01$). As such, this attitudinal shift may have suppressed fathers' participation in domestic tasks.

(promoting gender equality) as well as factors that exacerbate mothers' primary responsibility for these tasks (increasing gender inequality). Using novel longitudinal data collected throughout the first year of the pandemic, this study sought to understand how parents' divisions of domestic labor changed over time and identify factors that may have facilitated these changes. To do so, we employed fixed-effects models that avoid issues of endogeneity and spuriousness.

Consistent with studies across the globe, results show that partnered parents' divisions of housework and childcare became more equal in the early months of the pandemic (Chung et al., 2021; Craig & Churchill, 2020; Ruppanner et al., 2021; Shafer et al., 2020; Yerkes et al., 2020). Given that fathers became more exposed to domestic work during the early pandemic (Shafer et al., 2020), it was possible that the pandemic may help foster progress in the gender revolution by facilitating long-term increases in fathers' participation in housework and childcare. Unfortunately, results from this study suggest that progress, especially in the case of housework, may have been short-lived as fathers' shares decreased from April to November 2020. However, there is some evidence that fathers' shares of childcare increased early in the pandemic and remained elevated through Fall 2020.

Despite growth in fathers' domestic contributions (especially early in the pandemic), the findings underscore how deeply entrenched the gender system is in the United States. Even under conditions which should be ideal for fathers' participation for domestic labor, fathers' shares of domestic labor increased less than 5 percentage points. Though this constituted a roughly equivalent change as had occurred among married fathers through most of the stalled gender revolution, it is objectively of small magnitude. Yet, our estimates suggest that although fathers' shares of housework and childcare ebbed as the pandemic dragged on, they are still slightly higher than pre-pandemic levels (i.e., shares are ~2% greater). This suggests that the

experience of the pandemic could have long-term positive effects toward gender equality. Again, however, the magnitude of this change is small, suggesting that even under life-altering conditions that fundamentally disrupted families—gendered responsibilities for domestic labor emerged largely unscathed.

Describing trends in parents' divisions of domestic labor throughout the pandemic is important for understanding and contextualizing families' experiences during this time. So too is identifying factors that contributed to more equal sharing of domestic labor in the early pandemic, and then a reversion (but not complete reversal) in the fall. Simultaneous change amongst the theorized predictors of parents' domestic divisions provides a unique opportunity to test their relative importance. By identifying key factors that may have facilitated shifts in partnered parents' domestic labor, we can better test theories on the gendered division of labor as well as potentially inform public and workplace policies that may help to increase egalitarian sharing of housework and childcare.

Our results suggest that trends in parents' employment and work from home statuses largely parallel observed shifts in the division of unpaid domestic work. Specifically, there were sizeable shifts in April with more parents working from home, fewer parents working full-time, and more parents not working, and then a reversion back toward pre-pandemic levels in November. Fixed effects regression models suggest that these changes – especially changes in fathers' paid labor force conditions – are key in understanding changes in parents' divisions of domestic labor. That is, fathers performed a greater share of domestic labor when they spent less time in paid work and when they worked from home exclusively. Conversely, fathers performed a smaller share when mothers were not working and when mothers worked from home exclusively.

The association between working from home and fathers' participation in housework and childcare is consistent with recent research supporting the idea that greater time availability provided by telecommuting is associated with increased participation in domestic tasks among fathers (Carlson et al., 2021; Holmes et al., 2020; Lyttleton et al., 2020). Yet, perhaps the most important change in fathers' work lives was the shift between full-time and part-time work. Among changes in fathers' behaviors, shifts to part-time work were associated with the largest increases in their shares of both housework and childcare. The effect of fathers moving from full-time to part-time work was approximately 1.5 to 2 times as large as fathers' transitions from never working from home to working from home exclusively. In fact, bivariate analyses show that fathers who work part-time largely performed the greatest shares of housework and childcare compared to fathers who were unemployed or who worked full-time (see Table A4 in the online appendix).

In contrast to theories of gender display and deviance neutralization (Brines, 1994; Gough & Killewald, 2011; Greenstein, 2000; Rao, 2020) fathers who left jobs also significantly increased their shares of housework. Exiting the labor force was associated with an increase in fathers' shares of childcare as well, though not quite at conventional levels of statistical significance ($p = .065$). In times of crisis, these findings show that gendered conventions about family roles may be paused to deal with incredible challenge or rendered moot by labor market conditions that prevent men from focusing on job searches. Families were thrust into a situation that was completely new, perhaps leading parents to do whatever they could to manage the stressful situation. Though gendered scripts may generally guide couples' actions during periods of unemployment (Rao, 2020) or underemployment (e.g., moving to part-time work from full-time work), there are no clear scripts for how labor should be divided when unemployment,

school closures, and lockdowns occur all at once. As such, time availability may have played a greater role in facilitating unemployed fathers' greater domestic labor early in the pandemic, similar to past crises like the Great Recession (Berik & Kongar, 2013). Supplemental analyses examining bivariate associations between fathers' shares of housework and childcare and our key variables in March, April, and November (see Table A4 in Appendix) indicate that although unemployed fathers did the smallest shares of housework prior to the pandemic compared to other fathers, this was not the case in November. As such, it is possible that experiences during the pandemic may have altered the relationship between unemployment and fathers' domestic roles.

Increases in fathers' telecommuting and reductions in their paid work hours were associated with increases in their shares of domestic labor, yet these effects were counteracted by mothers' telecommuting or transitions out of the labor force during the first year of the pandemic. Indeed, the findings indicate that one of the primary reasons for reversion toward pre-pandemic divisions of domestic labor by Fall 2020 was the fact that while the number of fathers working full-time increased in the fall, the number of mothers out of the labor force barely changed from April 2020.

Though fathers' shares of housework and childcare reverted toward pre-pandemic levels, they likely remained elevated for two reasons. First, fathers continued to work exclusively from home in larger numbers than mothers. Second, for childcare specifically, access to, and attendance of, in-person school remained limited. Though research shows that mothers took on the majority of at-home education during the pandemic, fathers did more childcare when children were at home. Limited access and utilization of in-person school in the fall appears to have led

fathers of older children to continue doing a similarly larger share of childcare at the end of 2020 as they were early in the pandemic.

Taken together, these results largely support the time availability hypothesis (Blair & Lichter, 1991; Gough & Killewald, 2011; Stafford et al., 1977) where fathers (and mothers) were more likely to engage in housework and childcare when they worked fewer hours or were home more frequently and less likely to engage in domestic work when their partners were home more. Fathers who spend more time at home – due to voluntary reductions in paid work hours, job losses or furloughs, or the ability to work from home – may become more aware of housework and childcare tasks that need to be completed and have more time to participate in these tasks (Shafer et al., 2020). Given that fathers increasingly desire to be more engaged parents (Petts, Shafer, & Essig, 2018), the early pandemic may have provided them a unique opportunity to act on these desires by removing employment barriers that have prevented them from being as engaged at home as they would like (Lenhart et al., 2019; Petts & Knoester, 2018). That results for father's employment and remote work do not vary by gender ideology, however, suggests that being home was associated with doing more domestic labor regardless of whether fathers were inclined to contribute more or not.

The findings of this study suggest that policies that contribute to more equal divisions of time in paid labor and time at home may subsequently help to facilitate more egalitarian divisions of domestic labor. Specifically, flexible workplace policies may help fathers to be more consistently aware of, and more engaged in, domestic tasks (Carlson et al., 2021). Additionally, policies, such as subsidized childcare, paid leave, workplace flexibility, and equal opportunity and anti-discrimination hiring and wage policies that increase mothers' attachment to the paid

labor force – particularly in regard to full-time work – are equally important in helping to promote greater gender equality in family life in a post-pandemic society.

For work-family policies to affect change in the gendered division of labor requires parents to utilize these policies in ways that foster a more egalitarian division of labor. Such utilization rests on valuation of gender egalitarianism. Therefore, shifts toward more traditional gender ideologies during the pandemic should be disconcerting for proponents of gender equality as movement toward traditional gender ideologies were associated with decreases in fathers' shares of childcare. Indeed, without continued investment in workplace supports post-pandemic, these shifts in gender attitudes portend the erosion of any gains made during the early part of the pandemic and re-entrenchment of more conventional divisions of labor moving forward. Studies on gender ideology during the pandemic indicate that attitudes about parenting roles have especially shifted such that U.S. adults became increasingly supportive of mothers as primary caregivers (Mize et al., 2021) which may explain why changes in gender ideology were associated with change in the division of childcare but not housework. Whether shifts in gender ideology will persist is unclear. Though our aim was not to examine factors that affected parents' gender ideologies, women's labor force participation rates are associated with more traditional gender ideologies and unemployment specifically is associated with ambivalence toward gender equality in the public sphere (Scarborough, Sin, & Risman, 2019; Shu & Meagher, 2018). As such, the failure of women's labor force participation rates to rebound in Fall 2020 is especially disconcerting and suggests that increases in traditional gender ideologies may persist if women's labor force participation does not rebound long-term.

There are some limitations in this study to consider. First, although our analyses focus on parents' divisions of domestic labor, information is only provided by one parent in each family.

Previous research shows that both men and women overestimate time in domestic tasks (Lee & Waite, 2005; Yavorsky et al., 2015), and our survey instrument utilized stylized questions related to partners' relative shares of domestic labor to reduce response bias. As such, this study cannot speak to changes in parents' absolute hours in domestic tasks. Recent time diary estimates of parents' time in domestic labor during the pandemic, nonetheless, suggest very similar divisions of labor as reported in this study (Sayer, Yan, & Doan, 2021). Separate analyses by parent gender also show similar trends regarding changes in the division of domestic labor across the pandemic even through mothers and fathers have differing views of the actual distribution of labor, with fathers reporting continuing elevated shares of domestic labor in November (similar to presented findings on childcare) and mothers reporting a reversion toward pre-pandemic divisions (similar to presented findings on housework; see Table A5 in the online appendix for details). Future work utilizing dyadic data from both parents would be helpful in further understanding how and why parents divided domestic labor during the pandemic. Second, though we are able to assess telecommuting and access to in-person school and childcare with these data, we were not able to assess parents' use and length of paid leave or access to housework supports which may have been important factors in the reversion toward pre-pandemic divisions of housework. Third, data used for this study comes from a nonprobability sample. Although descriptive estimates are weighted to be representative of US parents by gender, age, and race/ethnicity, there are some differences compared to the US population. The use of fixed effects models also prevents us from considering the association between time-invariant factors and changes in parents' divisions of domestic labor (although overall descriptive trends are largely similar across basic sociodemographic characteristics – see Table A6 in the online appendix). Although we encourage future studies to further explore the

variations in parents' divisions of labor across sociodemographic groups using nationally representative data, the use of fixed effects analyses in this study help minimize any concerns related to the nature of the sample by focusing on within-person change. Finally, our measure of traditional gender attitudes is only measured at two time points and only for the respondent. As such, we are unable to consider gender attitudes prior to the pandemic, whether they may have shifted during the early months of the pandemic, or how partners' attitudes are associated with changes in domestic labor. Our findings support other studies showing an increase in traditional gender attitudes during the pandemic (Mize et al., 2021), but future research needs to explore why this shift has occurred. Unfortunately, an examination of the factors associated with changes in gender attitudes is outside the scope of this study.

Overall, the concurrent shifts in paid and unpaid labor during the COVID-19 pandemic provide a unique opportunity to understand how these structural changes may affect the division of domestic labor among parents, inform our understanding of broader patterns of gender inequality in the US, and assess how these changes may affect families in a post-pandemic society. This study expands on previous work that focused on the early stages of the pandemic to provide an overview of changes in parents' divisions of housework and childcare throughout the first year of the COVID-19 pandemic and to explain why these changes in domestic labor occurred. Results largely support a time availability perspective, showing that fathers performed greater shares of housework and childcare when they spent more time at home, and fewer shares of domestic labor when mothers spent more time at home. As such, descriptive trends indicate that when fathers time at home increased in April 2020 they performed a greater share of domestic labor than they did pre-pandemic, and as their own, but not mothers', time at home decreased through Fall 2020 their shares of domestic labor largely reverted to pre-pandemic

levels (particularly for housework). The findings highlight the necessity of structural supports for fathers' domestic engagement and mothers' labor force engagement and provide signposts for specific policy solutions (e.g., permanent workplace flexibility access for fathers) to facilitate necessary changes. The reversion toward pre-pandemic gendered divisions of domestic labor and increase in traditional gender attitudes by the end of 2020 suggests that any progress toward gender equality post-pandemic will require implementation and expansion of these policies to provide fathers with greater opportunities to be more involved at home and mothers with opportunities to reenter and remain in the labor force.

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**Table 1.** Descriptive Statistics for Key Variables

| | March 2020 | | April 2020 | | November 2020 | |
|---|---|---|---|---|---|---|
| | Mean/ Prop. | SD | Mean/ Prop. | SD | Mean/ Prop. | SD |
| Fathers' shares of housework | 1.43 | 0.81 | 1.64[a] | 0.81 | 1.51[ab] | 0.84 |
| Fathers' shares of childcare | 1.54 | 0.79 | 1.71[a] | 0.61 | 1.63[ab] | 0.56 |
| *Father works from home* | | | | | | |
| Exclusively | .09 | - | .45[a] | - | .37[ab] | - |
| Sometimes | .24 | - | .13[a] | - | .14[a] | - |
| Never | .66 | - | .42[a] | - | .49[ab] | - |
| *Mother works from home* | | | | | | |
| Exclusively | .12 | - | .35[a] | - | .24[ab] | - |
| Sometimes | .15 | - | .06[a] | - | .11[b] | - |
| Never | .73 | - | .59[a] | - | .65[ab] | - |
| *Father employment status* | | | | | | |
| Not employed | .11 | - | .20[a] | - | .14[b] | - |
| Works part-time | .08 | - | .17[a] | - | .12[ab] | - |
| Works full-time | .80 | - | .63[a] | - | .74[ab] | - |
| *Mother employment status* | | | | | | |
| Not employed | .33 | - | .42[a] | - | .40 | - |
| Works part-time | .23 | - | .24 | - | .24 | - |
| Works full-time | .44 | - | .34[a] | - | .36[a] | - |
| *Division of paid work* | | | | | | |
| Both FT | .35 | - | .22[a] | - | .27[ab] | - |
| Both PT | .01 | - | .05[a] | - | .02[b] | - |
| Father FT, Mother PT | .19 | - | .13[a] | - | .19[b] | - |
| Father FT, Mother not working | .26 | - | .28 | - | .27 | - |
| Father not working, Mother working | .07 | - | .12[a] | - | .08[b] | - |
| Both not working | .04 | - | .08 | - | .06 | - |
| Other | .08 | - | .12[a] | - | .10 | - |
| Household income | 4.85 | 1.62 | 4.47[a] | 1.80 | 5.00[ab] | 1.64 |
| *Relative earnings* | | | | | | |
| Father earns more | .73 | - | .68[a] | - | .61[ab] | - |
| Earnings shared equally | .10 | - | .15 | - | .25[ab] | - |
| Mother earns more | .17 | - | .16 | - | .14 | - |
| Child in daycare/school | .63 | - | .01[a] | - | .19[ab] | - |
| Traditional gender attitudes | 1.94 | 0.03 | 1.94 | 0.03 | 2.16[ab] | 0.03 |

*Note:* [a]Indicates significant difference from March 2020 ($p < .05$); [b]Indicates significant difference from April 2020 ($p < .05$).

**Table 2**. Fixed Effects Estimates of Fathers' Shares of Domestic Labor

| | Housework | | Childcare | |
|---|---|---|---|---|
| | b | SE | b | SE |
| *Father works from home* (ref = never) | | | | |
| Exclusively | 0.09* | 0.04 | 0.11** | 0.03 |
| Sometimes | 0.07 | 0.04 | 0.06 | 0.04 |
| *Mother works from home* (ref = never) | | | | |
| Exclusively | -0.13** | 0.04 | -0.14*** | 0.04 |
| Sometimes | -0.07 | 0.04 | -0.03 | 0.03 |
| *Father employment status* (ref = full-time) | | | | |
| Not working | 0.20** | 0.06 | 0.10 | 0.05 |
| Works part-time | 0.21*** | 0.06 | 0.16** | 0.05 |
| *Mother employment status* (ref = full-time) | | | | |
| Not working | -0.28*** | 0.06 | -0.17** | 0.06 |
| Works part-time | -0.12* | 0.05 | -0.03 | 0.04 |
| Household income | -0.02 | 0.02 | -0.02 | 0.01 |
| *Relative earnings* (ref = equal earnings) | | | | |
| Father earns more | 0.04 | 0.05 | -0.02 | 0.05 |
| Mother earns more | 0.04 | 0.06 | 0.01 | 0.05 |
| Child in daycare/school (1 = yes) | -0.03 | 0.03 | -0.04 | 0.03 |
| Traditional gender attitudes | -0.05 | 0.04 | -0.12** | 0.04 |
| *Wave* | | | | |
| April 2020 | 0.17*** | 0.03 | 0.10*** | 0.03 |
| November 2020 | 0.09*** | 0.03 | 0.07* | 0.03 |
| $R^2$ (within) | .12 | | .10 | |

*$p < .05$. **$p < .01$. ***$p < .001$

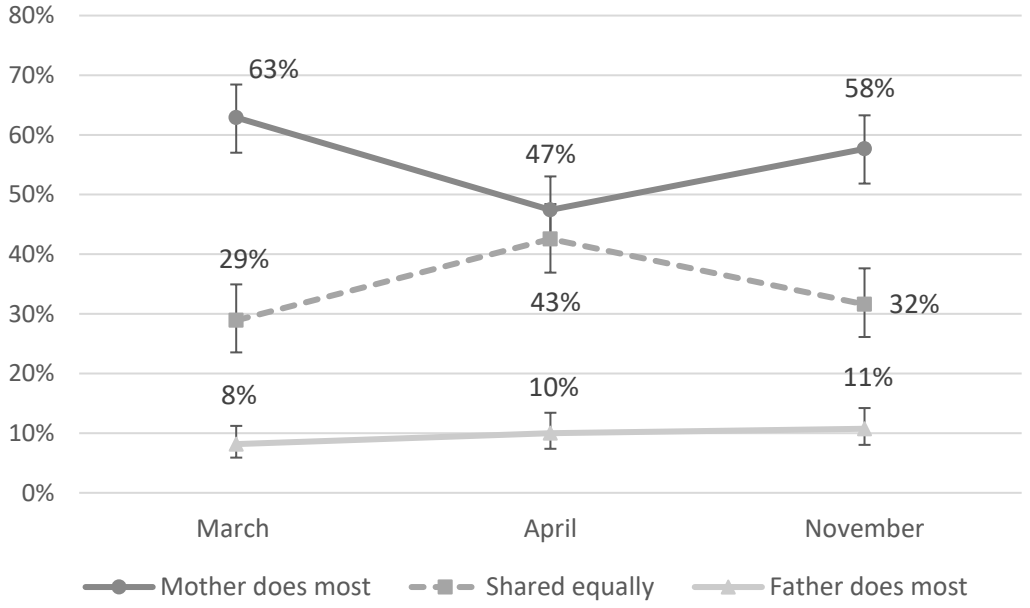


**Figure 1a.** Change in the Division of Housework During the COVID-19 Pandemic

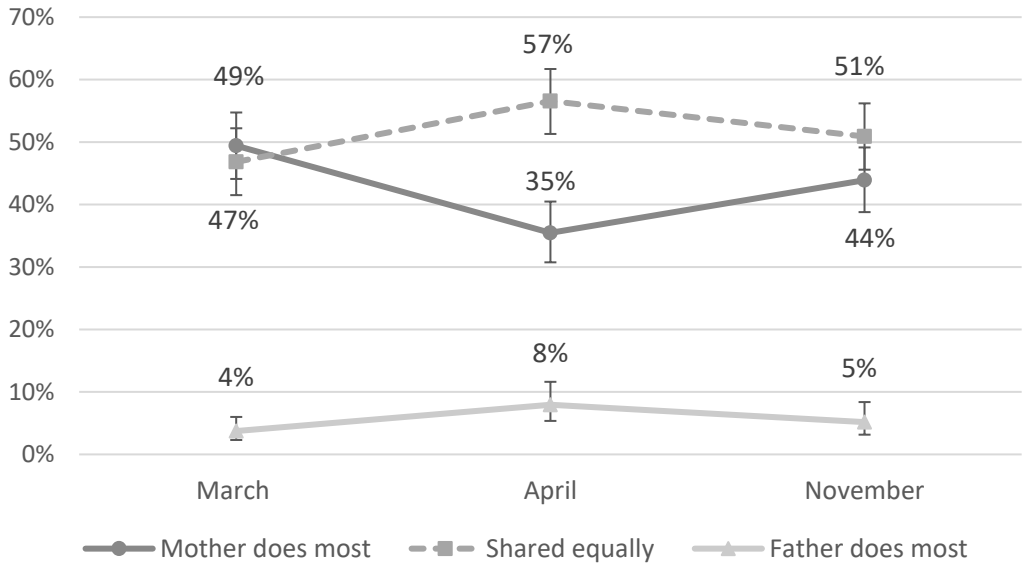


**Figure 1b.** Change in the Division of Childcare During the COVID-19 Pandemic

# ONLINE APPENDIX

Table A1: Descriptive Statistics for Sample (unweighted)

| | Wave 1 | | Wave 2 | |
|---|---|---|---|---|
| | Mean/Prop. | SD | Mean/Prop. | SD |
| *Gender of primary respondent* | | | | |
| Man | .40 | - | .38 | - |
| Woman | .59 | - | .61 | - |
| Other | .01 | - | .01 | - |
| *Relationship status* | | | | |
| Married | .87 | | .89 | - |
| Cohabiting | .13 | | .10 | - |
| Divorced/separated | - | - | .01 | - |
| Same-sex relationship | .08 | - | .08 | - |
| Age of youngest child | 6.98 | 5.80 | 7.14 | 5.87 |
| Number of children | 1.94 | 0.95 | 1.96 | 0.94 |
| *Religious affiliation of primary respondent* | | | | |
| Catholic | .19 | - | .19 | - |
| Protestant | .26 | - | .26 | - |
| Agnostic | .13 | - | .13 | - |
| None | .25 | | .26 | - |
| Other | .18 | - | .17 | - |
| *Political party affiliation of primary respondent* | | | | |
| Republican | .30 | - | .29 | - |
| Democrat | .43 | - | .43 | - |
| Independent | .21 | - | .22 | - |
| Other | .06 | - | .06 | - |
| *Race/Ethnicity of primary respondent* | | - | | |
| White | .77 | - | .78 | - |
| Black | .07 | - | .07 | - |
| Latinx | .09 | - | .08 | - |
| Asian/Other | .07 | - | .07 | - |
| Mother in excellent/good health | .43 | - | .43 | - |
| Father's in excellent/good health | .42 | - | .41 | - |
| Mother's Age | 30.52 | 12.42 | 31.50 | - |
| Father's Age | 29.57 | 11.90 | 29.87 | - |
| *Mother's Education* | | | | |
| HS or less | .11 | - | .11 | |
| Some college | .32 | - | .32 | |
| Bachelor's degree | .36 | - | .37 | |
| Advanced degree | .21 | - | .21 | |
| *Father's Education* | | | | |
| HS or less | .18 | - | .17 | |
| Some college | .27 | - | .28 | |
| Bachelor's degree | .34 | - | .35 | |
| Advanced degree | .21 | - | .21 | |
| Father is essential worker | .15 | - | .13 | |
| Mother is essential worker | .11 | - | .10 | |
| | 1157 | | 828 | |

**Table A2**. Fixed Effects Estimates of Fathers' Shares of Domestic Labor by Fathers' and Mothers' Paid Work Status

| | Housework | | Childcare | |
|---|---|---|---|---|
| | b | SE | b | SE |
| *Father works from home* | | | | |
| Exclusively | 0.11* | 0.05 | 0.09* | 0.04 |
| Sometimes | 0.11 | 0.06 | 0.01 | 0.05 |
| *Mother works from home* | | | | |
| Exclusively | -0.11* | 0.05 | -0.18*** | 0.04 |
| Sometimes | -0.02 | 0.05 | -0.03 | 0.04 |
| *Father employment status* | | | | |
| Not working | 0.21** | 0.07 | 0.08 | 0.07 |
| Works part-time | 0.07 | 0.07 | 0.01 | 0.06 |
| *Mother employment status* | | | | |
| Not working | -0.30*** | 0.06 | -0.19** | 0.06 |
| Works part-time | -0.14** | 0.05 | -0.04 | 0.05 |
| *Interactions* | | | | |
| Father works from home Exclusively x Mother works from home Exclusively | -0.03 | 0.06 | 0.07 | 0.05 |
| Father works from home Exclusively x Mother works from home Sometimes | -0.09 | 0.08 | -0.01 | 0.07 |
| Father works from home Sometimes x Mother works from home Exclusively | -0.07 | 0.09 | 0.17* | 0.07 |
| Father works from home Sometimes x Mother works from home Sometimes | -0.12 | 0.10 | 0.06 | 0.08 |
| Father not working x Mother not working | -0.04 | 0.10 | 0.03 | 0.09 |
| Father not working x Mother part-time | 0.02 | 0.08 | -0.01 | 0.11 |
| Father part-time x Mother not working | 0.22 | 0.12 | 0.22* | 0.10 |
| Father part-time x Mother part-time | 0.20 | 0.11 | 0.20* | 0.09 |
| $R^2$ (within) | .12 | | .11 | |

*Note:* All time-varying variables in Table 2 are included in these models but not shown to conserve space. *$p < .05$. **$p < .01$. ***$p < .001$

**Table A3**. Fixed Effects Estimates of Fathers' Shares of Childcare by Child Age

| | Younger Children | | Older Children | |
|---|---|---|---|---|
| | b | SE | b | SE |
| *Father works from home* | | | | |
| Exclusively | 0.16*** | 0.04 | 0.06 | 0.05 |
| Sometimes | 0.06 | 0.04 | 0.02 | 0.07 |
| *Mother works from home* | | | | |
| Exclusively | -0.09 | 0.05 | -0.20*** | 0.05 |
| Sometimes | -0.03 | 0.05 | -0.11* | 0.05 |
| *Father employment status* | | | | |
| Not working | 0.20** | 0.07 | -0.02 | 0.08 |
| Works part-time | 0.14** | 0.05 | 0.16 | 0.10 |
| *Mother employment status* | | | | |
| Not working | -0.11 | 0.06 | -0.24* | 0.09 |
| Works part-time | -0.03 | 0.05 | -0.03 | 0.06 |
| Household income | 0.01 | 0.02 | -0.05* | 0.02 |
| *Relative earnings* | | | | |
| Father earns more | -0.03 | 0.05 | 0.00 | 0.09 |
| Mother earns more | -0.01 | 0.06 | 0.07 | 0.07 |
| Child in daycare/school | 0.01 | 0.04 | -0.13* | 0.06 |
| Traditional gender attitudes | -0.09 | 0.05 | -0.15 | 0.08 |
| *Wave* | | | | |
| April 2020 | 0.11** | 0.03 | 0.03 | 0.07 |
| November 2020 | 0.03 | 0.03 | 0.06 | 0.06 |
| $R^2$ (within) | .12 | | .11 | |
| *N* | 301 | | 345 | |

*$p < .05$. **$p < .01$. ***$p < .001$

**Table A4.** Fathers' Shares of Domestic Labor by Key Variables (N = 700)

| | *Housework* | | | *Childcare* | | |
|---|---|---|---|---|---|---|
| | March 2020 | April 2020 | Nov 2020 | March 2020 | April 2020 | Nov 2020 |
| *Father works from home* | | | | | | |
| Exclusively | 1.56 | 1.74 | 1.66 | 1.61 | 1.77 | 1.73 |
| Sometimes | 1.57 | 1.66 | 1.72 | 1.63 | 1.84 | 1.82 |
| Never | 1.36 | 1.52 | 1.35 | 1.51 | 1.62 | 1.50 |
| *Mother works from home* | | | | | | |
| Exclusively | 1.46 | 1.76 | 1.70 | 1.57 | 1.77 | 1.68 |
| Sometimes | 1.66 | 1.68 | 1.48 | 1.72 | 1.85 | 1.68 |
| Never | 1.38 | 1.56 | 1.46 | 1.50 | 1.66 | 1.60 |
| *Father paid work hours* | | | | | | |
| Does not work | 1.22 | 1.78 | 1.61 | 1.56 | 1.80 | 1.63 |
| Works part-time | 1.89 | 1.86 | 1.91 | 1.85 | 1.78 | 2.00 |
| Works full-time | 1.41 | 1.53 | 1.44 | 1.52 | 1.67 | 1.58 |
| *Mother paid work hours* | | | | | | |
| Does not work | 1.15 | 1.42 | 1.40 | 1.39 | 1.61 | 1.51 |
| Works part-time | 1.35 | 1.56 | 1.40 | 1.46 | 1.73 | 1.60 |
| Works full-time | 1.68 | 1.95 | 1.73 | 1.70 | 1.82 | 1.77 |
| *Division of paid work* | | | | | | |
| Both FT | 1.64 | 1.84 | 1.66 | 1.69 | 1.79 | 1.73 |
| Both PT | 1.94 | 1.82 | 1.73 | 1.53 | 1.84 | 1.73 |
| Father FT, Mother PT | 1.36 | 1.51 | 1.30 | 1.49 | 1.69 | 1.60 |
| Father FT, Mother not working | 1.13 | 1.30 | 1.31 | 1.33 | 1.56 | 1.42 |
| Father not working, Mother working | 1.38 | 1.89 | 1.87 | 1.53 | 1.87 | 1.69 |
| Both not working | 0.94 | 1.60 | 1.28 | 1.64 | 1.70 | 1.53 |
| Other | 1.88 | 1.87 | 1.95 | 1.93 | 1.74 | 2.08 |
| *Household income* | | | | | | |
| Less than $3000/month | 1.26 | 1.51 | 1.41 | 1.53 | 1.71 | 1.51 |
| $3000 - $6999/month | 1.47 | 1.68 | 1.50 | 1.54 | 1.66 | 1.60 |
| $7000/month or more | 1.46 | 1.69 | 1.60 | 1.56 | 1.79 | 1.71 |
| *Relative earnings* | | | | | | |
| Father earns more | 1.27 | 1.50 | 1.41 | 1.46 | 1.68 | 1.56 |
| Equal earnings | 1.67 | 1.94 | 1.56 | 1.79 | 1.69 | 1.70 |
| Mother earns more | 1.92 | 1.92 | 1.91 | 1.79 | 1.88 | 1.85 |
| *Child in daycare/school* | | | | | | |
| Yes | 1.29 | 1.63 | 1.49 | 1.34 | 1.71 | 1.60 |
| No | 1.51 | 1.80 | 1.65 | 1.61 | 1.67 | 1.75 |
| *Traditional Gender Ideology* | | | | | | |
| At or above Mean | 1.33 | 1.56 | 1.47 | 1.44 | 1.64 | 1.62 |
| Below mean | 1.53 | 1.72 | 1.57 | 1.64 | 1.78 | 1.64 |

*Note*: Fathers' shares of housework and childcare is measured on a 5-point scale from 0 = mothers does it all, to 2 = shared equally, to 4 = father does it all.

**Table A5.** Fathers' Shares of Domestic Labor by Parent Gender

| | March 2020 | | April 2020 | | November 2020 | |
|---|---|---|---|---|---|---|
| | Mean/ Prop. | SD | Mean/ Prop. | SD | Mean/ Prop. | SD |
| *Fathers' Reports* | | | | | | |
| Fathers' shares of housework | 1.81 | 0.67 | 1.99[a] | 0.63 | 1.95[a] | 0.69 |
| Fathers' shares of childcare | 1.76 | 0.45 | 1.99[a] | 0.46 | 1.94[a] | 0.43 |
| *Mothers' Reports* | | | | | | |
| Fathers' shares of housework | 1.03 | 0.76 | 1.26[a] | 0.80 | 1.06[b] | 0.73 |
| Fathers' shares of childcare | 1.30 | 0.53 | 1.44[a] | 0.61 | 1.32[b] | 0.51 |

*Note:* [a]Indicates significant difference from March 2020 ($p < .05$); [b]Indicates significant difference from April 2020 ($p < .05$).

**Table A5.** Fathers' Shares of Domestic Labor by Selected Time-Invariant Characteristics

| | *Housework* | | | *Childcare* | | |
|---|---|---|---|---|---|---|
| | March 2020 | April 2020 | Nov 2020 | March 2020 | April 2020 | Nov 2020 |
| *Education* | | | | | | |
| HS or less | 1.27 | 1.47 | 1.28 | 1.34 | 1.50 | 1.40 |
| Some college | 1.34 | 1.56 | 1.35 | 1.51 | 1.68 | 1.56 |
| Bachelor degree | 1.38 | 1.60 | 1.49 | 1.55 | 1.73 | 1.61 |
| Advanced degree | 1.64 | 1.83 | 1.83 | 1.62 | 1.77 | 1.79 |
| *Race/ethnicity* | | | | | | |
| White | 1.39 | 1.61 | 1.53 | 1.56 | 1.71 | 1.63 |
| Black | 1.40 | 1.57 | 1.32 | 1.45 | 1.50 | 1.52 |
| Latino | 1.49 | 1.66 | 1.50 | 1.60 | 1.83 | 1.73 |
| Asian/other | 1.55 | 1.77 | 1.68 | 1.46 | 1.74 | 1.56 |
| *Age* | | | | | | |
| Younger than 30 | 1.53 | 1.69 | 1.46 | 1.54 | 1.63 | 1.56 |
| 30-44 | 1.40 | 1.62 | 1.52 | 1.48 | 1.66 | 1.56 |
| 45 or older | 1.44 | 1.65 | 1.53 | 1.62 | 1.79 | 1.73 |
| *Number of children* | | | | | | |
| 1 | 1.56 | 1.73 | 1.65 | 1.58 | 1.73 | 1.65 |
| 2 | 1.39 | 1.59 | 1.51 | 1.58 | 1.71 | 1.66 |
| 3 | 1.36 | 1.67 | 1.43 | 1.50 | 1.80 | 1.62 |
| 4 or more | 1.16 | 1.39 | 1.17 | 1.37 | 1.54 | 1.48 |
| *Relationship status* | | | | | | |
| Cohabiting | 1.57 | 1.86 | 1.59 | 1.56 | 1.78 | 1.59 |
| Married | 1.42 | 1.62 | 1.51 | 1.54 | 1.71 | 1.64 |

*Note*: Fathers' shares of housework and childcare is measured on a 5-point scale from 0 = mothers does it all, to 2 = shared equally, to 4 = father does it all.

**Table A7**. Fixed Effects Estimates of Fathers' Shares of Domestic Labor, with Interaction Effects by Parent Gender

| | Housework | | Childcare | |
|---|---|---|---|---|
| | b | SE | b | SE |
| *Father works from home* (ref = never) | | | | |
| Exclusively | 0.09 | 0.07 | 0.08 | 0.05 |
| Sometimes | 0.10 | 0.07 | 0.04 | 0.07 |
| *Mother works from home* (ref = never) | | | | |
| Exclusively | -0.21** | 0.07 | -0.24*** | 0.05 |
| Sometimes | -0.17* | 0.07 | -0.09 | 0.05 |
| *Father employment status* (ref = full-time) | | | | |
| Not working | 0.30* | 0.12 | 0.06 | 0.10 |
| Works part-time | 0.20* | 0.10 | 0.22 | 0.09 |
| *Mother employment status* (ref = full-time) | | | | |
| Not working | -0.29* | 0.09 | -0.19* | 0.09 |
| Works part-time | -0.15 | 0.09 | -0.04 | 0.07 |
| Household income | -0.01 | 0.03 | -0.04 | 0.02 |
| *Relative earnings* (ref = equal earnings) | | | | |
| Father earns more | 0.09 | 0.10 | 0.01 | 0.09 |
| Mother earns more | 0.09 | 0.08 | 0.12 | 0.07 |
| Child in daycare/school (1 = yes) | -0.06 | 0.05 | -0.16** | 0.05 |
| Traditional gender attitudes | -0.10 | 0.08 | -0.25** | 0.08 |
| *Wave* | | | | |
| April 2020 | 0.16** | 0.05 | 0.08 | 0.04 |
| November 2020 | 0.19** | 0.06 | 0.16** | 0.05 |
| *Father works from home* (ref = never) | | | | |
| Exclusively x Mother | 0.00 | 0.09 | 0.01 | 0.07 |
| Sometimes x Mother | -0.06 | 0.09 | 0.01 | 0.08 |
| *Mother works from home* (ref = never) | | | | |
| Exclusively x Mother | 0.13 | 0.09 | -0.16* | 0.07 |
| Sometimes x Mother | 0.14 | 0.09 | -0.08 | 0.07 |
| *Father employment status* (ref = full-time) | | | | |
| Not working x Mother | -0.15 | 0.14 | 0.06 | 0.12 |
| Works part-time x Mother | -0.00 | 0.11 | -0.11 | 0.10 |
| *Mother employment status* (ref = full-time) | | | | |
| Not working x Mother | 0.01 | 0.12 | 0.04 | 0.11 |
| Works part-time x Mother | 0.04 | 0.10 | 0.00 | 0.09 |
| Household income x Mother | -0.02 | 0.04 | 0.03 | 0.03 |
| *Relative earnings* (ref = equal earnings) | | | | |
| Father earns more x Mother | -0.09 | 0.11 | -0.07 | 0.10 |
| Mother earns more x Mother | -0.10 | 0.12 | -0.20* | 0.09 |
| Child in daycare/school x Mother | 0.03 | 0.06 | -0.19** | 0.06 |
| Traditional gender attitudes x Mother | 0.05 | 0.10 | 0.19* | 0.09 |
| *Wave* | | | | |
| April 2020 x Mother | 0.02 | 0.06 | 0.05 | 0.06 |
| November 2020 x Mother | -0.16* | 0.07 | -0.12* | 0.06 |
| $R^2$ (within) | .13 | | .13 | |

*$p < .05$. **$p < .01$. ***$p < .001$